

#### 0585: DYNAMIC HIP SCREW FIXATION: IS THE TIP-APEX DISTANCE THE MOST IMPORTANT PREDICTOR FOR LAG SCREW CUTOUT?

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**Introduction:** A large number of Dynamic Hip Screws (DHS) are performed in our department by surgeons of different grade and experience. The purpose of this audit was to assess our surgical outcomes by calculating the TADs for all the cases performed in a period of 12 months by all grades of surgeons, and determine the rate of cut-out.

**Methods:** Data were collected retrospectively from theatre records. The TADs were calculated as described by Baumgaertner et al. The follow up x-rays were reviewed independently and information was obtained regarding the post-op cut-out.

**Results:** One hundred and fifteen patients were identified. TAD varied from 6.56 mm to 37.08 mm with mean 17.27mm. One hundred and one cases (87.8%) had a TAD less than 25mm. Mean TAD was least in the Consultant group and mean follow-up was 9 months. Four hips cut out (3.5%), three of which had a TAD less than 25mm.

**Conclusions:** Surgical grade and therefore experience leads to an improved TAD. The group of surgeons with shortest operative time did not have better TADs. Failure of DHS fixation is multifactorial and hence a TAD less than 25mm does not guarantee that the metalwork will not cut out.

#### 0586: EXTERNAL IMPINGEMENT OF THE SHOULDER – INTEROBSERVER VARIABILITY IN SPECIFICITY OF MRI

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**Introduction:** External impingement in the shoulder is a common condition and MRI scanning is frequently utilised to confirm diagnosis. Our aim was to calculate the interobserver variability in specificity of MRI scanning in impingement of the shoulder.

**Methods:** 26 patients presenting with shoulder instability only and no clinical signs of impingement were included. Their MRI scans were reviewed by 3 consultant musculoskeletal radiologists who were asked to comment on the presence or absence of impingement.

**Results:** Radiologist 1(R1) diagnosed 7 shoulders with impingement and 19 without. Radiologist 2(R2) observed that 13 shoulders had radiological signs of impingement and 13 did not, and radiologist 3(R3) suspected impingement in 20 shoulders with 6 normal. For R1 and R2, the agreement was 0.58 with a kappa value of 0.16. Between R2 and R3, agreement was also 0.58 with a kappa of 0.16. Comparing R1 and R3, the agreement was 0.46 and kappa was 0.14. Across all three radiologists, there was agreement in 31% (8/26) MRI scans, but only in 15.6% did they all agree that impingement was not present.

**Conclusions:** MRI should be used sparingly in the work-up of patients with suspected external impingement as it has low specificity and inter-observer agreement even among experienced radiologists.

#### 0587: TWENTY FIVE PER CENT INCREASE IN INCOME FROM ANKLE FRACTURE SURGERY FOLLOWING CODING REVIEW

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**Introduction:** To review financial coding for ankle fractures at Luton Hospital over a three month period to assess for financial shortfall.

**Methods:** Analysis of ankle fracture cases treated operatively was performed by our coding department to determine revenue from operation (post-operative complications not assessed). The cases were subsequently reviewed by a consultant orthopaedic surgeon to determine coding accuracy.

**Results:** In the study period 47 ankle fracture operations were performed. After review 26 of these were incorrectly coded resulting in £44,041 of recovered income. This represented a 25% increase in revenue from £176,302 to £220,343 with average increase of £937 per case. Ten cases coded for generic open reduction and extra-medullary fixation accounted for the majority of recovered income. In these cases, where the tibia, fibula and syndesmosis were fixed and documented individually, the tariff increased from £2040 up to maximum of £8,791. Interestingly, the tariff was downgraded for fracture dislocation cases which were reduced in A&E regardless of subsequent operative procedure.

**Conclusions:** Optimal revenue depends on accurate documentation in operation notes and surgeons should work with coding departments to evaluate shortfalls. The documentation of separate tibia, fibula and syndesmosis fixation has a major impact on revenue in ankle trauma.

#### 0626: ACCURACY OF PATIENT REPORTED RANGE OF ELBOW MOTION

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**Introduction:** To compare quantitatively patient estimates and actual measurement of elbow ROM across trauma and orthopaedic (T&O) patients with and without elbow pathology. Secondly we also compare clinician estimates with actual measurements.

**Methods:** Thirty T&O outpatients were recruited, ten of which had elbow pathology such as fractures and limited ROM, five of which had forearm or wrist involvement and limited ROM, and fifteen had no elbow history and normal ROM. Participants estimated limits of flexion, extension, pronation and supination of both elbows, plotting angles diagrammatically. The author then estimated these movements before measuring these three times with a goniometer.

**Results:** Limits of agreement at 95% confidence interval, combining flexion, extension, pronation and supination, were substantial for patients (-29.6° to 44.8°). This was narrower for clinicians (-16.0° to 16.7°). Paired one-tailed t-tests show a significant (<0.00001; 95% confidence interval) difference between patient and actual ROM combining all four movements, as well as between patient and clinician (<0.00001; 95% CI).

**Conclusions:** There is significant discrepancy between patient estimated and actual elbow ROM. Patient assessed ROM may not be reliable and this is probably best left to clinicians. When using PROMs to aid management, clinicians should consider high error margins.

#### 0703: WHAT IS THE ROLE OF PROXIMAL HUMERUS LOCKING PLATES?

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**Introduction:** Proximal humerus fractures are common. Although, the vast majority can be treated non-operatively, there is a poor consensus of treatment method. We evaluated the outcome of proximal humerus fractures treated with locking plates at our institution.

**Methods:** All consecutive patients who were treated with proximal humerus locking plates between June 2006 and Jan 2012 were included in this retrospective study. The case notes and radiographs were reviewed for data collection. QuickDASH and Oxford Shoulder Score were used for outcome measurement.

**Results:** A total of 22 patients underwent the procedure. The average age was 59.2 years. PHILOS plates were used in 15 patients and Acumed in 7. The average follow was 12 months. Eight patients achieved movement above 120 degree, 8 between 90 and 119, 2 between 60 and 89, and 3 less than 60 respectively. Fourteen (63.6%) patients returned the questionnaire. The average quickDASH and Oxford Shoulder Score were 37.8 and 31.3 respectively. Five patients underwent second operation, 3 for implant removal and 2 for revision.

**Conclusions:** Majority of patients (76%) achieved good or excellent range of movement with proximal humerus locking plates and is reflected in patient reported outcome measures. However, Five (22.7%) needed second operation.

#### 0705: MANAGEMENT OF ACROMIOCLAVICULAR JOINT DISLOCATION WITH 'DOG BONE' TIGHTROPE SYSTEM; SINGLE SURGEON SERIES

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**Introduction:** The aim of this study is to evaluate functional and radiological outcomes of acute acromioclavicular joint (ACJ) stabilisation following dislocation using the "Dogbone Tightrope" system.

**Methods:** This is a single surgeon case series review of seven patients who suffered acute ACJ dislocation (grade III+) and were treated using the "Dog Bone" tightrope system between January 2012 - 2013. We assessed post-operative complications, functional outcomes using Quick DASH, ASES and patient satisfaction. Reduction and maintenance of reduction was determined using the coracoclavicular (CC) distance.